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The Fire Closet.

THE FIRE CLOSET

For the Destruction of the Night-Soil of

DWELLINGS, SCHOOLS, HOTELS, FACTORIES

COURT HOUSES, JAILS, ETC.

BY THE METHODS OF

THE ENGLE SANITARY AND.

...CREMATION COMPANY.

OF DES MOINES, IOWA.

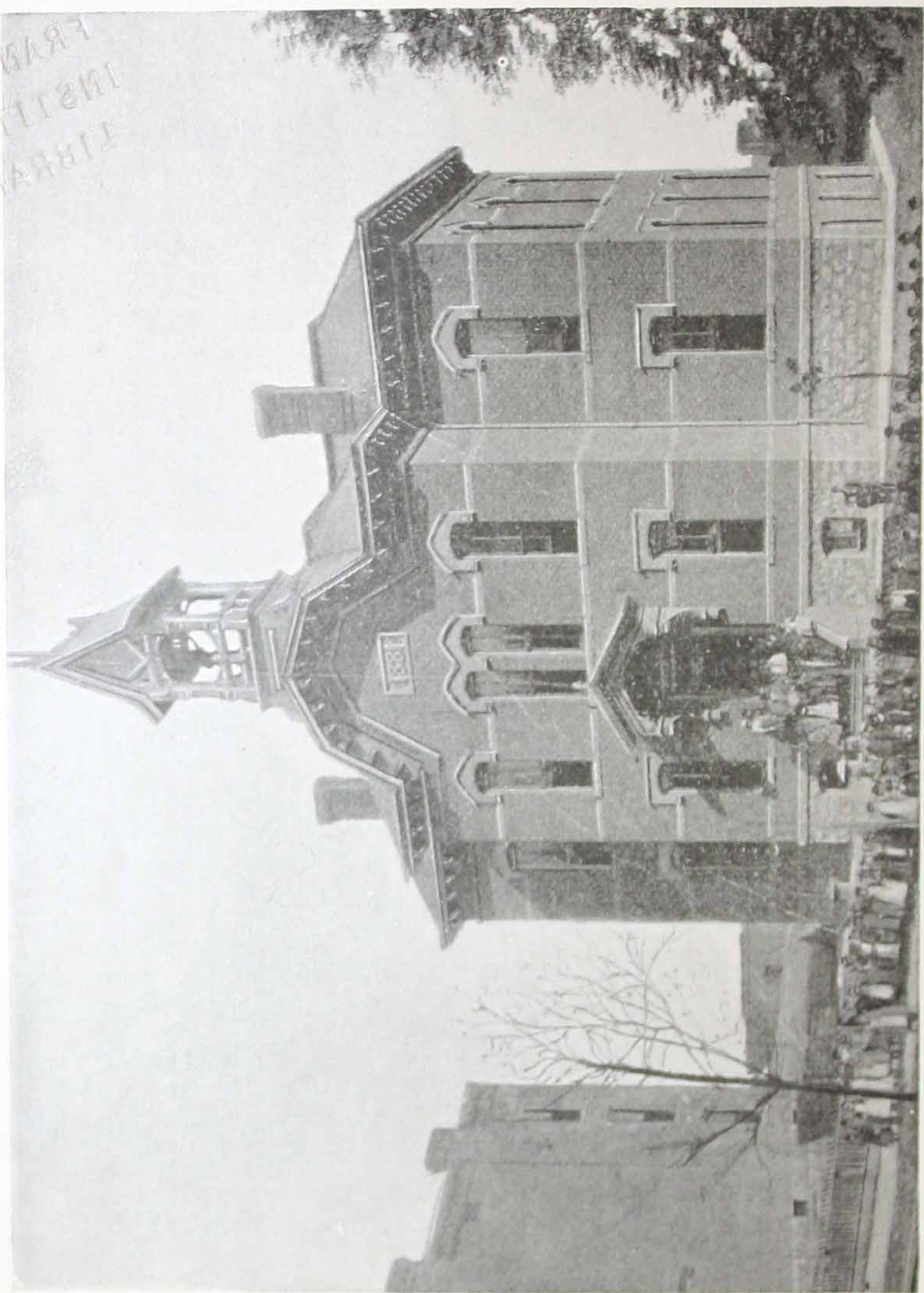
REPRESENTED IN NEW YORK CITY BY

James C. Savery *and* Geo. H. Warner,

30 STATE STREET, NEW YORK.

W. F. MORSE, General Agent.

Address letters to Geo. H. Warner.



THE GARFIELD SCHOOL BUILDING, DES MOINES, IOWA.

THE ENGLE SANITARY FIRE CLOSET.

THE demand can now be met for an improved and economical apparatus which shall do away with the ordinary privy vault and furnish a sanitary and effective way to dispose of the organic waste of the human body, as well as the worthless and discarded matters from the household.

The necessity for such an apparatus is obvious. The statements made by so many distinguished sanitarians at home and abroad, that the accumulation and retention in vaults or cess-pools, of organic waste, and the want of care in its proper management and disposal, is a source of ever present danger and, to a great extent, the active cause of many of the zymotic or filth diseases, are too well substantiated to be disputed. The Medical publications of the day, the transactions of Medical and Health Associations, the reports of State Boards of Health and the observations and recommendations of the Health Officers of cities and towns teem with expostulations, warnings and prophecies pointing out the evil effects of the continued accumulation, careless and slovenly treatment, and unsanitary disposition of household filth.

The germs of disease are not destroyed by being emptied into water, or exposed to low temperature in ice or snow, or by being mixed with earth or ashes. There is one sure method of disposing of the organic waste of the human body, one safe and practical way which commends itself to every one who gives an instant's thought to the question—its destruction by fire. By the application of this agency unsanitary matter is purified and made over into harmless, even valuable substances, and perfect protection to health and relief from nuisance and annoyance insured.

After experiments extending through several years the Engle Sanitary Company has perfected and brought into practical use a Fire Closet for the reception of organic waste, for its retention without offense or trouble, and for its destruction by fire without nuisance, without removal, without offense to the sense of sight or smell, at small expense and with a minimum of labor.

This Fire Closet receives from the retiring rooms of the Dwelling, the School House, the Hotel, the College, the public Court House or the Factory, all of the excrementitious matter, and thereby takes the place of the privy vault, the water or flushing method, and the awkward and cumbrous earth closet system.

It is arranged to fill the need of buildings where there are a large number of people throughout the twenty-four hours. Not merely satisfying the wants of a limited number of school children from three to six hours per day, it is used continuously during all hours of day or night, and this with no connection with any outside sewer or drain, requiring no overflow pipes, nor demanding any assistance from water supply.

For the use of *Households* the Closets are made of iron, are portable, easily handled and set up, and occupying small space.

For *Hotels* where there are numbers of guests, this Closet will meet any demand upon it, required only to be constructed of brick, of a size suitable for the accommodation of a varying and sometimes unusual number of persons.

For *School Buildings*, where the pupils number from one hundred to five hundred or more, the construction is still more enlarged and the closets and urinals arranged according to the space and number of pupils. These School Closets have given results entirely satisfactory and obtained the strong recommendation of the best authorities.

For *Summer Hotels and Country or Seaside Resorts* where sewerage facilities are not available, the Engle method furnishes the only perfectly sanitary protection, and this at the smallest cost.

Wherever a number of people are temporarily brought together by a common purpose, as at *Educational Associations, Camp Meetings or State or County Fairs*, or temporary stay for any purpose, this method of caring for the waste of the community is one which provides for the absolute destruction of everything deleterious, annoying or useless. The immense value of such a means as this at such places is easily seen.

The *Medical Schools, Colleges and Hospitals* of the country, where quantities of the most offensive and dangerous material will naturally accumulate, are compelled to provide for the disposal of these matters, often in a way unsanitary and expensive. Following the example of John Hopkins University of Baltimore, every Medical School and College and every City and County Hospital should be equipped with this inexpensive and necessary adjunct to their sanitary appliances.

Suburban localities offering attractive advantages to the intending householder, can, by including this sanitary substitute for the privy-vault be certain of appreciation and material increase of prosperity.

As a means of sanitation at Railroad Stations, where, in a vast majority of places, no adequate sewerage connections can be obtained, this Fire Closet furnishes a certain relief from the foul odors and dangerous gases which too often cause annoyance and discomfort to the traveller, and seriously affect the health of employees of the company.

Manufactories, Shops and Works of all kinds, where many employees are congregated, are liable to become unhealthy from the presence of perishable material used in manufacturing or from accumulations of excrementitious matter. The annihilation of all this threatening mass can be perfectly accomplished by fire.

The *General Government* has recognized the value of this destructor and adopted it at Military Posts for the disposal of the contents of cess-pools and garbage.

The *sanitary protection afforded* to every class of buildings by the introduction of the Engle System cannot be too highly estimated. It secures the purity of the family water-supply where wells are used, by preventing the seepage through the porous soil of the poisonous liquids; it does away with the presence of large quantities of this most dangerous matter in immediate proximity to the household. Inasmuch as this method destroys excrement without collection, without removal, and without observation, it greatly contributes to the general health and comfort by removing the necessity for transporting filth through the public streets by night or day.

Aside from the sanitary benefit, the economy of this method of destruction by fire as compared with the cost of cleaning and disinfecting vaults should be taken into account. In the latter case it is a serious charge added to the annual expense of the household. In the former instance an insignificant amount of fuel and a few hours work, is the whole cost of operating it.

The application of the principles of the *Engle Fire Closet and Night-soil Destructor* are well nigh universal. The invention can be put into use in every place, as the several sizes are adapted to all kinds of buildings and to an equivalent number of people. The cost of construction is comparatively moderate; the operation of firing requires no skilled labor; the exact cost of maintenance is known; there is no elaborate machinery to get out of order; the cold or heat of the atmosphere does not affect it; there is no attachment or connection with the ventilating or heating system, and consequently no danger of back draughts or escape of odors into the building.

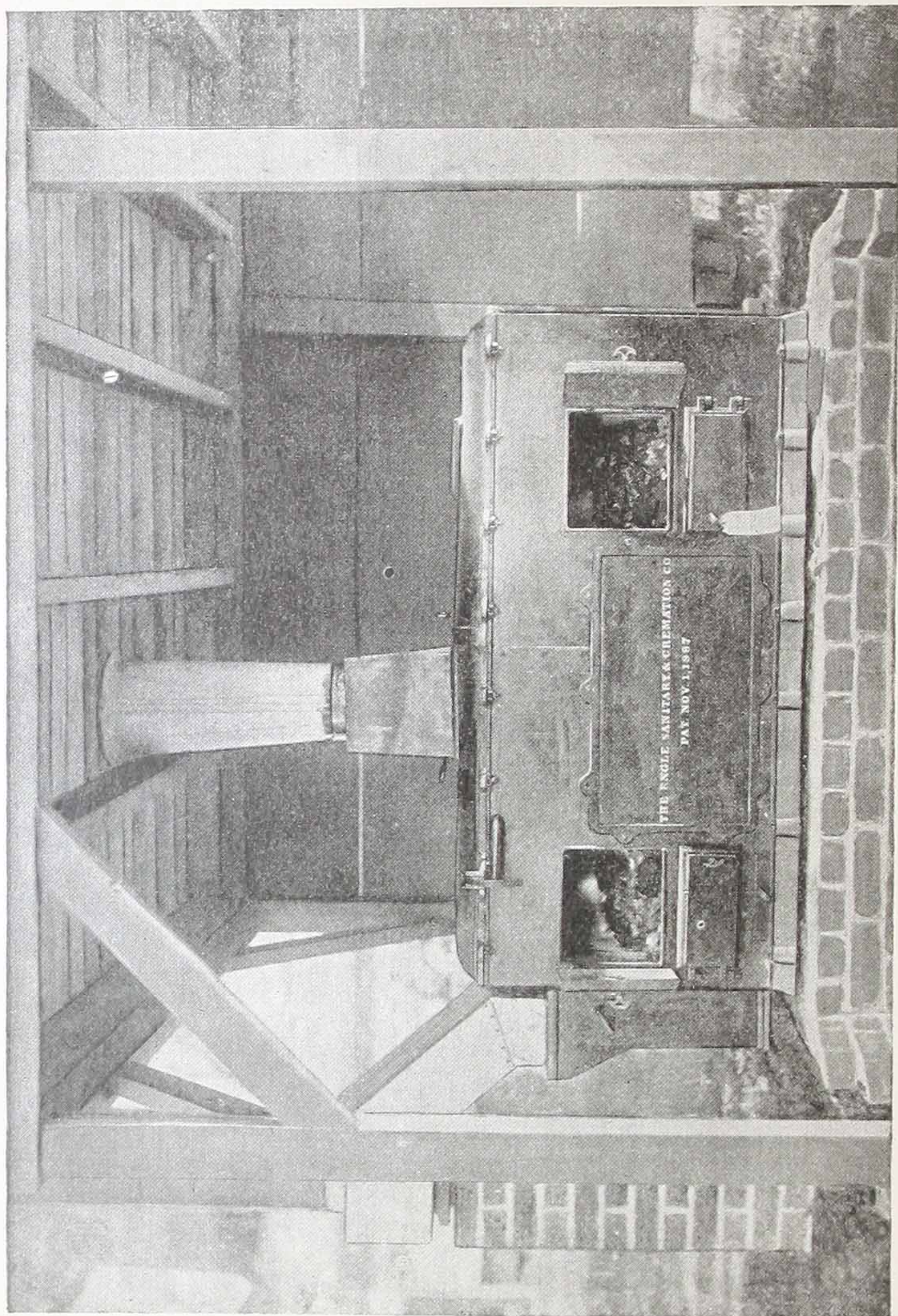


PLATE 2. THE PORTABLE FIRE CLOSET USED AT THE STATE FAIR, DES MOINES, IOWA.

THE PORTABLE FIRE CLOSET FOR DWELLINGS.

This size of the Engle Fire Closet is made for single dwellings or houses occupied by not more than two or three families. It is an iron rectangular structure, 7 feet long, 2½ feet wide, 2¼ feet high, lined with fire tiles, and taking up a little more space than the ordinary kitchen range. It is usually placed in the basement or cellar, where easy access can be had to the chimney. If needed, the pipe from the Cremator can be carried from twelve to fifteen feet to enter the chimney, and the Cremator can be set under the bathroom—the seat at the end of the bath-tub—and the connection made in the cellar with the chimney that carries the smoke for the heating furnace.

The position of the Closet with reference to the remainder of the house is arranged to afford the easiest access with the utmost privacy and, if desired, with closets or retiring-rooms on two separate floors of the dwelling. The soil-pipes receive from the seats and conduct the waste directly into the body of the furnace; the liquid matters passing into the receiving pans under the grate bars; the solid material being caught by the grates.

The subjoined letters from Dr. Turner and others who have had these Fire Closets in use from one to four years, are conclusive as showing their estimate of the value of this Closet:

DES MOINES, IOWA, }
March 25, 1889. }

Engle Sanitary and Cremation Co., Des Moines, Iowa.

GENTLEMEN: In answer to your request for me to state what I think of your furnace for consuming of night-soil, etc., I take pleasure in stating that I have had one of your small furnaces for houses in my dwelling, for nearly two years, in constant use for my family. It gives perfect satisfaction. It is simple and the most economical way of disposing of night-soil, etc., that I know of. With a family of from six to eight it takes about from two to three weeks to fill the receptacle, and about two hours to burn it off with wood or soft coal. It is very simple and free from offensive odors.

Yours, etc.,

M. P. TURNER, M.D.

DES MOINES, IOWA, }
October 26, 1891. }

The Engle Sanitary and Cremation Co., Des Moines, Iowa.

GENTLEMEN: I have had in use three Engle Fire Closets, one at my house four years, one in my business block on Grand Avenue, two years, and one at my business and residence block on Seventh Street for one year. They have in every particular performed the purposes for which they were intended. They destroy not only night-soil but the garbage as well from these several dwellings and stores. From my experience I am satisfied that the Engle System is sanitary, economical and effectual, and can recommend its use.

M. P. TURNER, M.D.

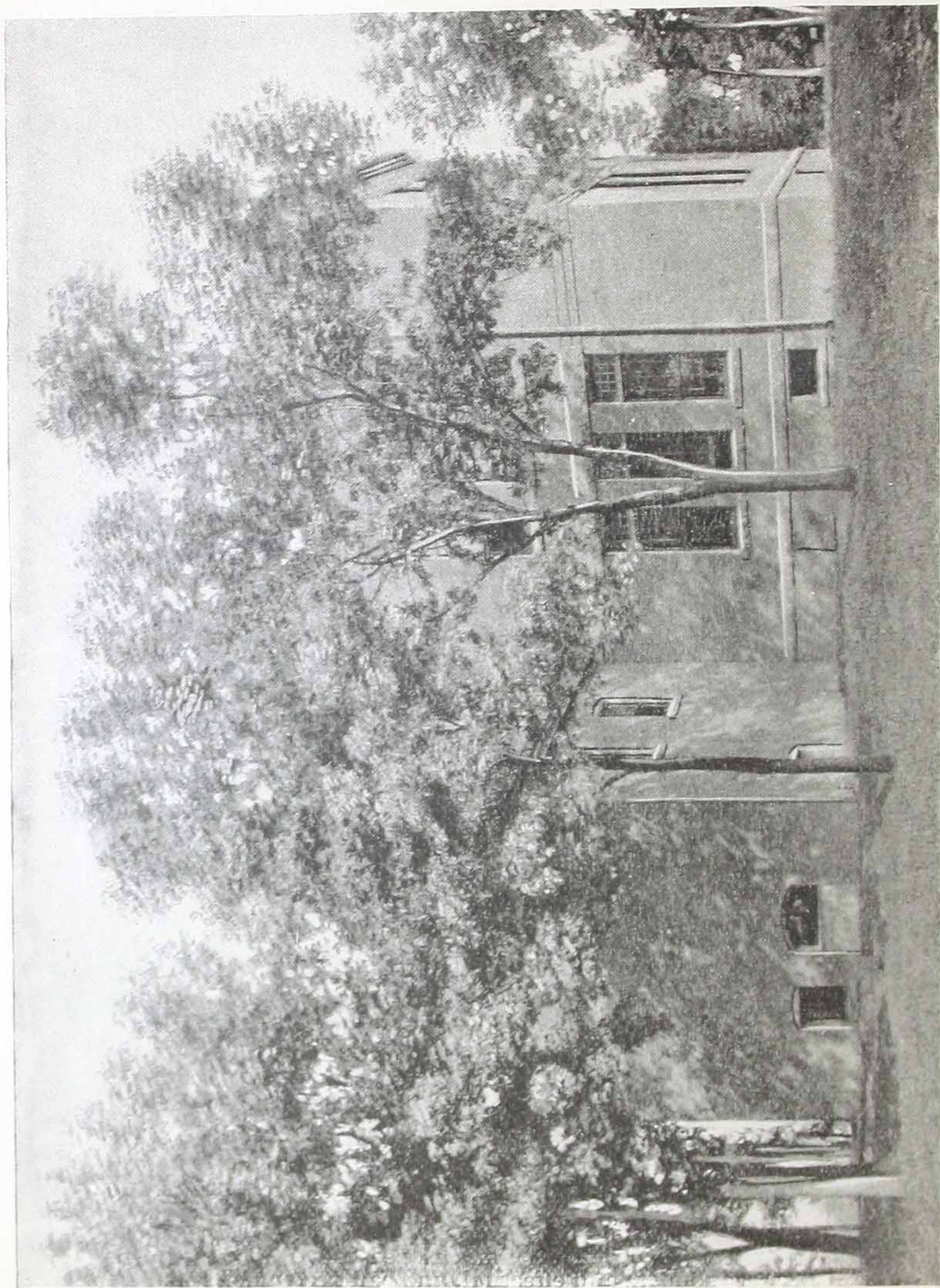


PLATE 3. THE ANNEX TO SCHOOL BUILDING CONTAINING FIRE CLOSET.

OFFICE OF "THE IOWA SIGNAL,"
220 College Ave., Des Moines, Iowa. }
October 26, 1891.

TO WHOM IT MAY CONCERN :

After one year's trial, I heartily recommend the Engle Sanitary Cremator to be all that it is represented to be.

CLARA A. STEPHENS,
Editor "Iowa Signal."

Hotels, Banks, Office Buildings and Stores have these Fire Closets in constant use. A Fire Closet has been in use at the Commercial Hotel, Boonville, Missouri, for two years past with the most satisfactory result. There are two seats and urinals on the lower floor and one seat on the second floor, accomodating from twenty-five to fifty persons per day. The Closet is burned off as occasion requires, the amount of fuel used being insignificant. The letter subjoined from the proprietor of the hotel is evidence of its usefulness :

COMMERCIAL HOTEL, Boonville, Missouri, }
October 19, 1881.

The Engle Sanitary and Cremation Co., Des Moines, Iowa.

GENTLEMEN: The Engle Fire Closet put into the Commercial Hotel by your Company in December, 1889, has been in constant use ever since and has given the best of satisfaction.

It is operated without odor or smell, destroys all the contents with a small amount of fuel and is the best substitute for vault and privies that can be found. I take pleasure in recommending its use in all hotels who have difficulty with their vaults or cess-pools.

H. C. WOOLDRIDGE,
Proprietor.

In business buildings where no connections with sewers can be had and where vaults are objectionable and dangerous, the Engle Closet supplies the place of all other methods.

The Directors of the Central National Bank at Boonville, Missouri, put in the Engle Closet two years ago and their experience, as shown by the letters following, gives a good idea of the value of this service to them.

BOONVILLE, MISSOURI, }
October 14, 1889.

To the Manager, Engle Sanitary and Cremation Co., St. Louis, Mo.

DEAR SIR: The Engle Fire Closet No. 1 you put in this bank some three months ago, has given entire satisfaction. It is being used by our bank (in which there are eight employees), the Western Union Telegraph Co., and the Telephone Co. We have burned it off twice in that time, with comparatively no expense, and without any odor or offensiveness in the least. We feel that it settles the problem of the disposal of night-soil, and would not have it removed for twice its cost. We highly recommend it as an absolutely odorless closet

Very respectfully,

J. M. NELSON, President.

WM. SPEED STEPHENS, Cashier.

LON V. STEPHENS, Asst. Cashier.

W. S. MYERS, Bookkeeper.

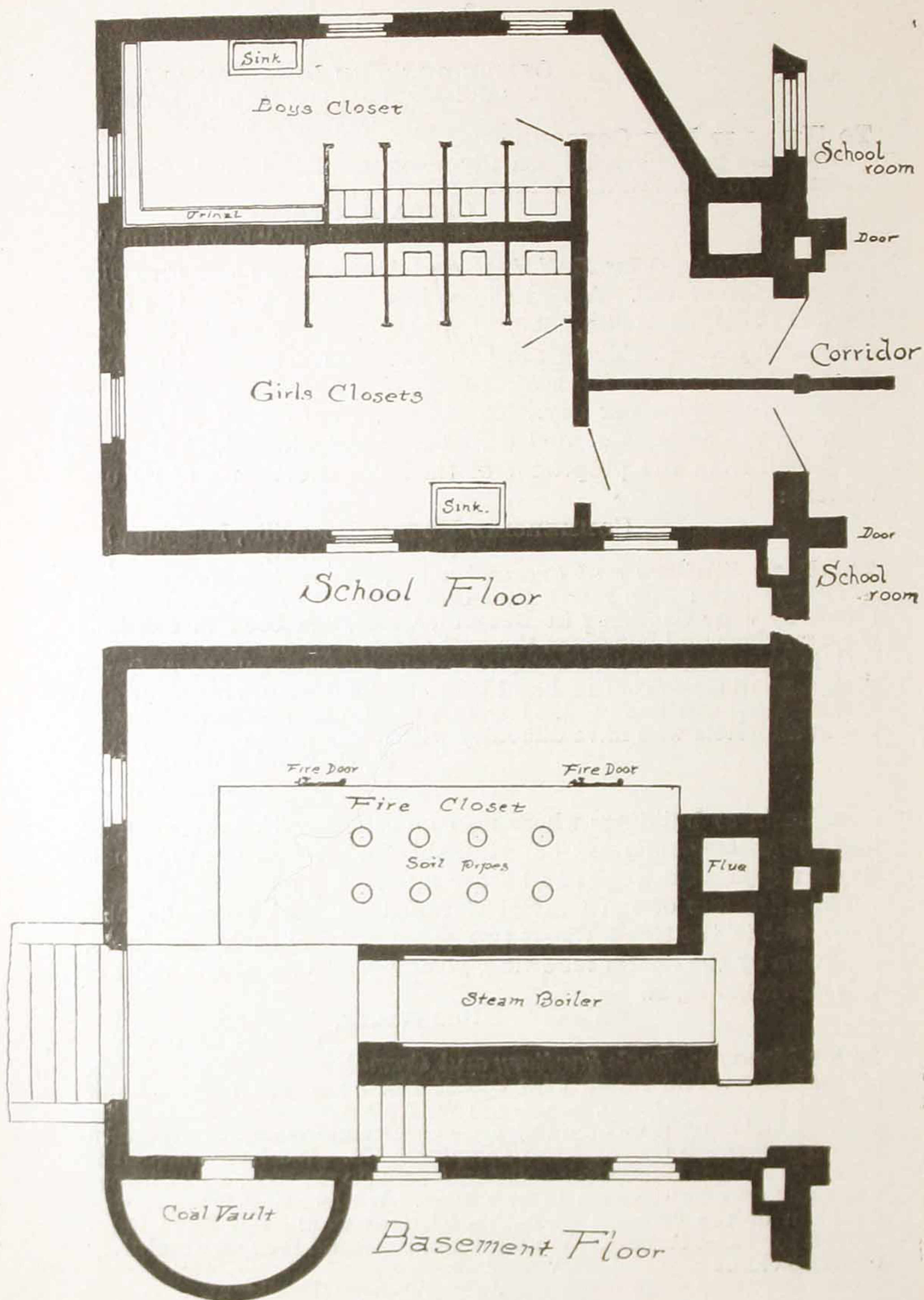


PLATE 4. BASEMENT, FLOOR PLAN OF ANNEX TO SCHOOL BUILDING
CONTAINING FIRE CLOSET AND FIRST FLOOR OF SCHOOL
SHOWING CLOSETS AND URINAL.

CENTRAL NAT. BANK, BOONVILLE, MISSOURI. }
October 19, 1891. }

The Engle Sanitary and Cremation Co., Des Moines, Iowa.

DEAR SIR: After two years constant use of the Engle Fire Closet, burning same out on the average once a month, we are pleased to state gives us entire satisfaction, and again recommend it.

Respectfully,

WM. SPEED STEPHENS, Cashier.

At Health Resorts, where perfect sanitary conditions are absolutely necessary, this system has been practically demonstrated by long use to be the only one that fully meets the requirements of reception and disposal of excrement without nuisance. The letter from Dr. Ryan could be supplemented by many others:

SANITARIUM AND HOTEL RYAN, }
COLFAX, IOWA, January 20, 1889. }

Mr. Andrew Engle, Des Moines, Iowa.

DEAR SIR: I have used your Cremator in my hotel and sanitarium for five years, accommodating from sixty to eighty people per day, with very little expense and with perfect satisfaction to everybody. It has been endorsed in the strongest terms by the Jasper County Medical Society. I would not do without it for ten times its cost.

Respectfully yours,

(Signed.)

J. R. RYAN, M.D.

In the application of the Engle Methods for the use of *School Buildings* the Engle Company has been signally successful. A description of a Fire Closet used at the Garfield School, Des Moines, Iowa, where two hundred and fifty pupils attend, will best give an idea of the location, construction and operation of these Cremators. (See Plate 1.) At the rear of that building is a small annex 20 x 24 feet, 20 feet high, and contains the boiler for the steam heating apparatus and the Engle Furnace. (See Plate 3.) They are side by side in the basement of the annex, both flues going into the same chimney, which is 26 inches square inside. (Cut No. 1. Plate 4.)

The Fire Closet is a brick structure 18 feet long, 6 feet wide, 6 feet high, exterior dimensions. The walls are 17 to 32 inches thick, lined with the best fire-clay brick, and are strongly braced outside with buckstays and tie-rods. The soil-pipes from the closets above discharge directly upon the grate bars, the liquids passing through to the pan beneath. Valves at the lower end of the soil-pipes prevent the smoke and flame from entering the pipes when fire is applied.

At all times, whether in use or being burned off, the draught is invariably downward through the seats, soil tubes and the upper flue into the chimney; thus no escape of odors or gases can occur. There is none of that deadly smell from the poisonous matter which is found in privy-vaults, nor are any complaints made by the occupants of the presence of foul odors in the school-rooms. (See arrows in Plate 5, indicating draughts.)

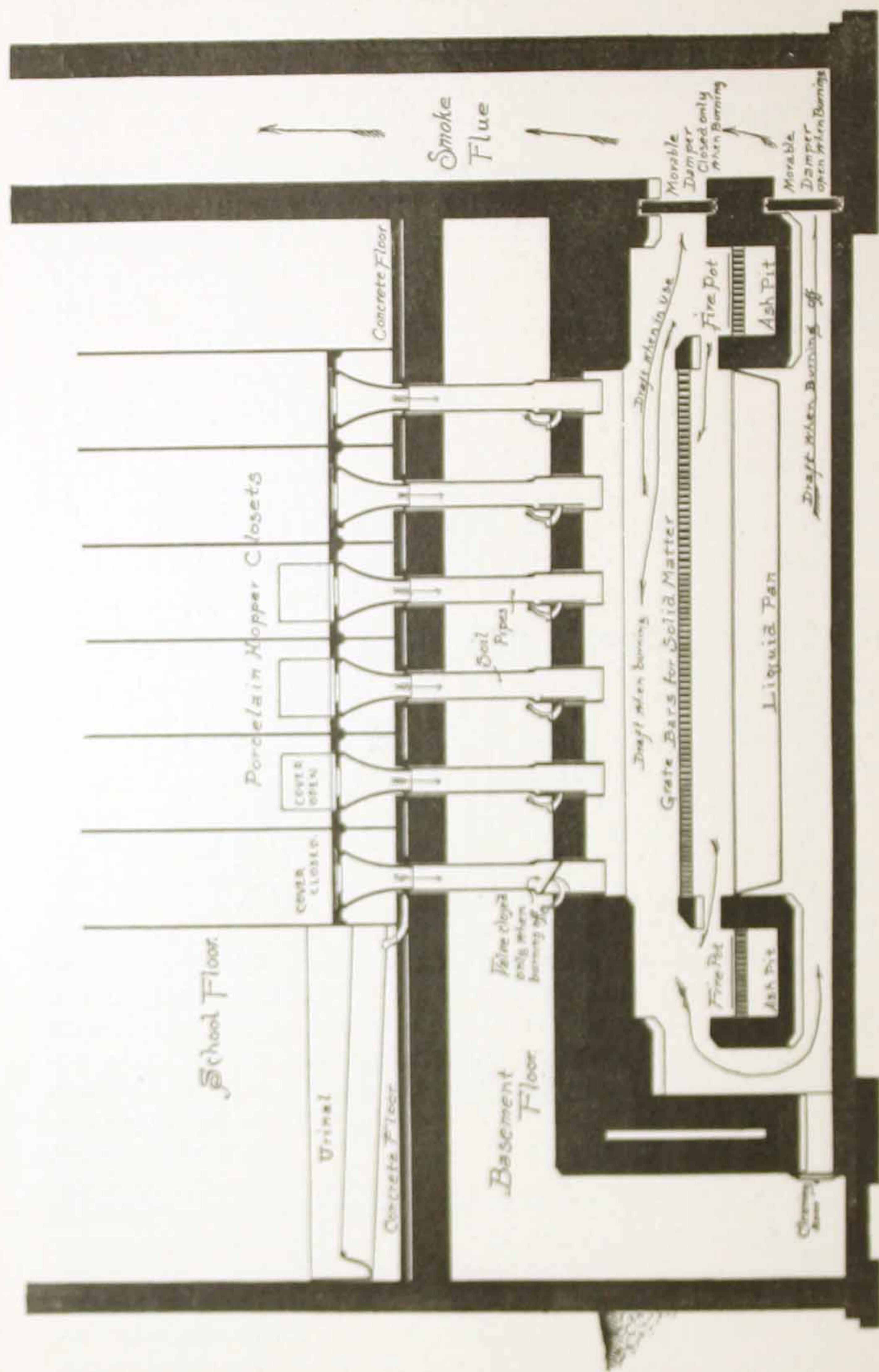


PLATE 5. SIDE VIEW OF INTERIOR OF FIRE CLOSET AND SOIL PIPES CONNECTING WITH SEATS AND URINAL FROM FIRST FLOOR.

When the accumulation is to be burned, the valves are closed and fire is applied in the fire-boxes at each end. The flame from the rear fire-box passes over the upper grates, is brought down across the front fire-box, thus consuming the carbon and gases of the burning night-soil, and circling under the bottom of the receiving pan, heats this intensely, causing the decomposition of the liquids into their original gases, and these in a highly inflammable state pass into this flame at the front fire-box. This is continued until all the matter is consumed, and usually lasts from one to three hours, according to the amount burned, quantity of fuel, etc. (See Plate No. 5.) There are doors in the sides and end for observation, the removal of ashes, etc.

The room above the furnace, on a level with the first or main floor of the school, is divided longitudinally by partitions, one side containing six stalls or seats, the other, six seats, making twelve in all, and urinal. The hoppers and urinal are porcelain lined, continued below by galvanized iron soil-pipes set into solid cast-iron bases. The seats, covers and stalls are made in the usual way, but so built as to allow access to every part, for cleansing purposes. There is separate accommodation for the teachers. The floors and corridor, in front of and about the soil-pipes is made of cement. This is an absolutely cleanly and perfectly sanitary closet. The draught is strongly downward through the soil-pipes and allows no escape of fumes. The use of the best porcelain hoppers or receiving bowls insures perfect cleanliness. The coal used to operate this Fire Closet costs about \$5.00 per year. No extra labor is employed as the janitor attends to the process. There are two hundred and sixty-four pupils in attendance at the Bird School, where a similar closet has been in use two years, and at the Washington School Building, with four hundred pupils, a furnace with twelve seats is in use. This requires about \$8.00 worth of coal per year.

The Bird and Garfield school buildings are both within the sewerage and water district of the city of Des Moines, and a comparison made of the relative cost per year of maintaining each method shows that a water-carriage system into sewers would each cost per year \$24.00 for water rent, against \$5.00 per year spent for coal for each Fire Closet. It should be understood that these Cremators do not provide for a system of ventilation for the main school building, and that they are entirely separate from the system of heating or warming the building. In parts of the country where the temperature falls to an extreme low point in cold weather, there is additional advantage possessed by the Engle Closet, as no attention is necessary to guard against its freezing, whereas in the water or sewerage system, constant attention is required during cold weather.

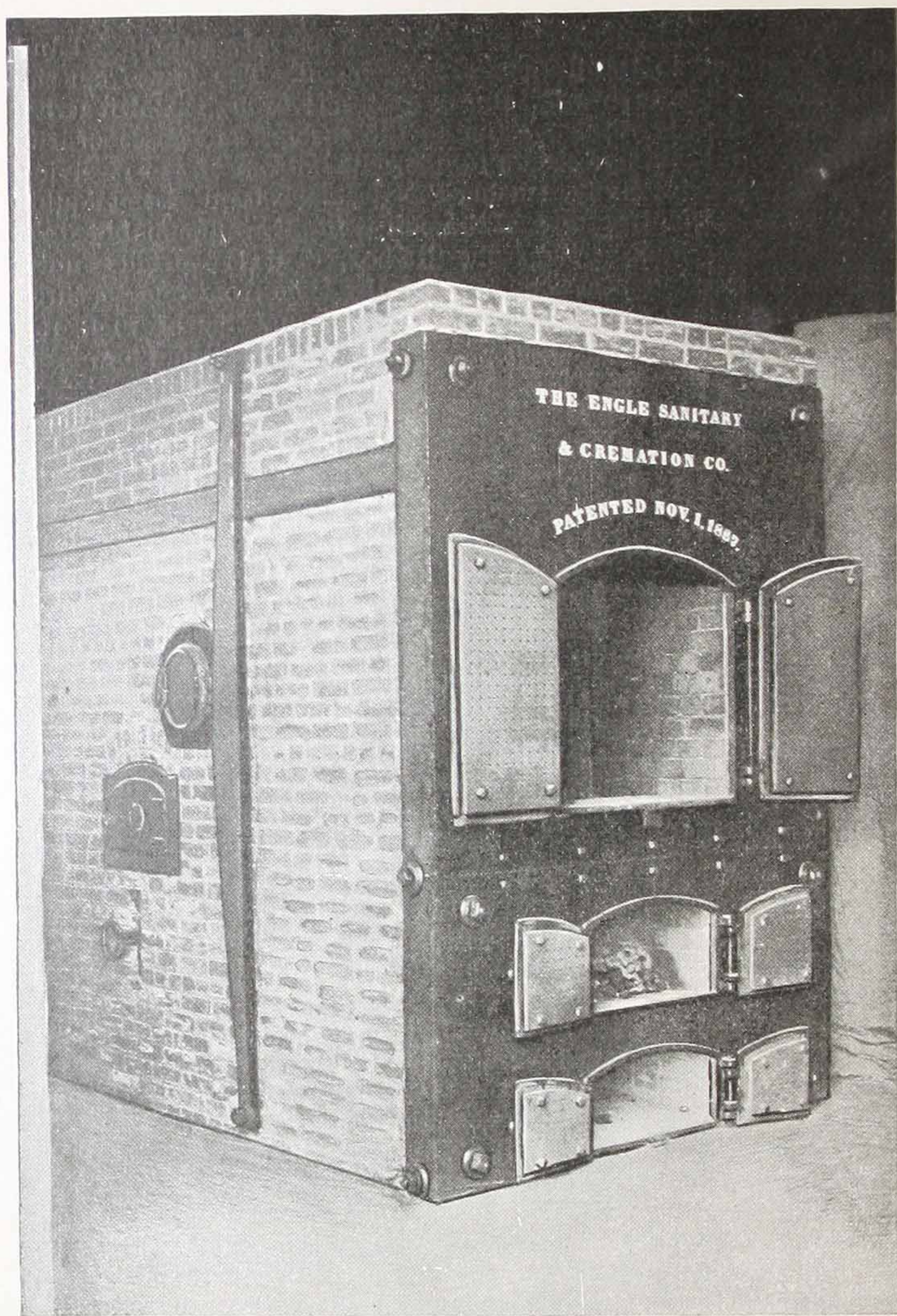


PLATE 7. HOSPITAL FURNACE, BUILT FOR THE HEALTH COMMISSIONERS AT 16TH STREET, NEW YORK CITY.

The letters below attest the value of the Engle Method after practical use under the most exacting conditions :

June, 1891.

W. C. Smith, Engle Sanitary and Cremation Co., Des Moines, Iowa.

DEAR SIR: We, the undersigned members of the Independent School District of West Des Moines, after having investigated and compared your principle of Fire Closets with other systems in use, decided to use them in two school buildings, and since their introduction in said buildings in 1889 and 1890, we have carefully watched their workings, both while being used as receptacles and during their progress of burning. And in both cases have we found them to be not only *perfectly* odorless, but as your principle is *down draft at all times*, (and thereby different to all other systems.) they are *actual* ventilators for the closets above, thereby giving no chance for the raising of the noxious and poisonous gases usually attendant on such places. We are also aware that *nothing so effectually* purifies as fire, and as it is absolutely impossible during process of destruction for anything to pass from your Cremator, except through an incandescent fire, we are thoroughly satisfied that all germs of disease emanating from the excretions of the human body, are completely and effectually destroyed.

We, therefore, truly believe that in this Cremator we have, at least, the true system for this purpose, and one which, if generally used, would go far toward preventing the diseases propagated by such places. And, we feel that we can cheerfully and truly recommend them to all school boards, and to the public in general.

F. S. WHITING, President.
D. D. FLEMING.
C. L. DAHLBERG.
CROM BOWEN.
W. MUSSON.
LAMOINE MOTT.

(Signed)

AMES, IOWA, }
July 2, 1891. }

Mr. W. C. Smith, Agent Engle Sanitary Co., Des Moines, Iowa.

DEAR SIR: When Superintendent of Schools in the City of Des Moines, I had occasion to observe the workings of your Fire Closet system. I examined its workings frequently and found it to give decided satisfaction. It is free from offensive odors, it is cleanly and thoroughly practical. For matters of this character fire is the most wholesome purifier, and the arrangement of your system works with marked success. I commend the system favorably.

Very respectfully,

W. M. BEARDSHEAR,
President Iowa State Agricultural College.

HIGH SCHOOL.

R. ELLSWORTH CALL, M.Sc., M.A.,
Instructor in Natural Science, Lecturer in
Botany, Iowa College of Pharmacy.

DES MOINES, IOWA, }
October 27, 1891. }

The Engle Sanitary and Cremation Co., City.

GENTLEMEN: I beg to state that I am personally familiar with the system of disposing of garbage and other waste matter as perfected by you in the Engle Garbage and Cremation Furnace. To

its working I have given very much attention and desire to commend it to the attention of school officers and others wishing a ready and sanitary means of disposal of refuse matter. I have given some attention to the chemistry of the process employed and unhesitatingly state that the method is entirely scientific and successful.

Near my residence is located one of the ward school buildings of this city, the Bird Building. This is the second season of use of the furnace in this school, the furnace of which is fired every two or three weeks. Except for the smoke for a very short time at the beginning, no one would ever know that an important and valuable apparatus is at work destroying offensive and dangerous matter. There is never any odor during the operation of the furnace or after it so far as I know. I am convinced that it is quite near sanitary perfection.

Very truly yours,

R. ELLSWORTH CALL.

West Des Moines City Schools,
Bird School,
MISS M. D. NASH, Principal.

DES MOINES, IOWA, {
October 29, 1891. }

TO WHOM IT MAY CONCERN :

The Crematory in use during the past year in the Bird School Building has given perfect satisfaction. While being burned out, and at all times, it is entirely odorless.

Respectfully,

M. D. NASH.

The Engle Fire Closet for Hospitals and Medical Schools has filled a place for which it seems to be specially designed. The sick wards, the operating rooms, and the clinical department of every hospital produce a certain amount of waste, for which there is no other way of disposal except to absolutely destroy. The record made by the Engle Fire Closet wherever it has been used by hospitals and medical schools, has shown that it perfectly cares for every kind of useless matter that can be named, without the chance of nuisance or offense and with a certainty of operation, economy of fuel and labor which has met with the warmest endorsement of the hospital staff and the faculty of medical colleges.

At the Beaumont Medical College Hospital, of the City of St. Louis, an Engle Closet has been in operation for one year and has perfectly fulfilled the intention of the constructor in disposing of everything placed therein. There can be no doubt of the Engle System in this connection, and it can be introduced at a very moderate price, as every institution of this class has a chimney or stack of some kind available for the purpose.

The Disinfecting and Quarantine Stations of the large seaport cities, the *Emigrant, Naval and Marine Hospital Stations* of the Government, where the destruction of infected bedding, clothing, hospital waste, etc. is a necessity, can by the employment of this cremating furnace be assured of the disposal of infected material in a perfectly sanitary way. Plate 7 shows a cremating furnace of this

class built for the Health Commissioners of New York City at the foot of East 16th Street, which has for three years destroyed large amounts of infected articles and the waste from the adjacent hospital, with no loss of time, without offense of smoke or gases, and with no chance for the escape of disease germs.

The letters appended from Rohan Bros., Boiler Manufacturing Company, and from Thomas Coffin & Co., Limited, and the Mississippi Glass Company, of St. Louis, both employing large numbers of men, attest the value of the *Engle Fire Closets for use in manufacturing establishments*. It frequently happens that in works where large numbers of men are congregated the sanitary arrangements become exceedingly foul, offensive, demoralizing and injurious to the health. Notoriously under such conditions, it is much more difficult to keep closets and out-buildings in a good sanitary condition than where a smaller number of people are concerned. Manufacturing establishments of every description where a chimney or stack is used, can attach an Engle Fire Closet which will perfectly relieve them from any trouble or offense connected with the sanitary arrangements and at greatly reduced cost. This is precisely the case with the two manufactories mentioned, and the success that these have met with can be easily repeated by any other manufacturing establishment in the country.

To the Agent of the Engle Sanitary Co.

ST. LOUIS,
March 28, 1890. }

DEAR SIR: The Fire Closet Cremator you put up for our sheet-iron workers on the second floor of our shop, was burned off to-day with perfect success. The time of burning was one hour and thirty minutes. The fuel was coke and soft coal, about one and one-half bushels. The number of men using it was about forty-five. The closet has been running about two weeks, and there has never been an odor, nor was there any odor while burning. The closet is what you call a No. 2. I will confer with you at once, for the erection of one on the lower floor for boiler makers. I recommend it most heartily.

Respectfully,

ROHAN BROS.,
Boiler Manufacturing Co.

To the Agent of the Engle Sanitary Co.

ST. LOUIS,
April 11, 1890. }

DEAR SIR: The Fire Closet you put up for us about seven months since, has been in constant use since its erection, by seventy-five to eighty men, and it is with pleasure we say, that it has been an unqualified success. Being built in connection with our brick kilns, it has not cost us one cent of additional expense for burning, and has at all times been free from odor. We have burned the contents of the closet but once in the seven months, but could burn it as frequently as we thought necessary; it being as you know a very large one, does not require frequent burning, especially as it is entirely free from offensive odor. We do not hesitate to recommend your closets to all who desire sweet and clean premises.

Yours respectfully, THOS. COFFIN & Co., Limited.
H. T. A.

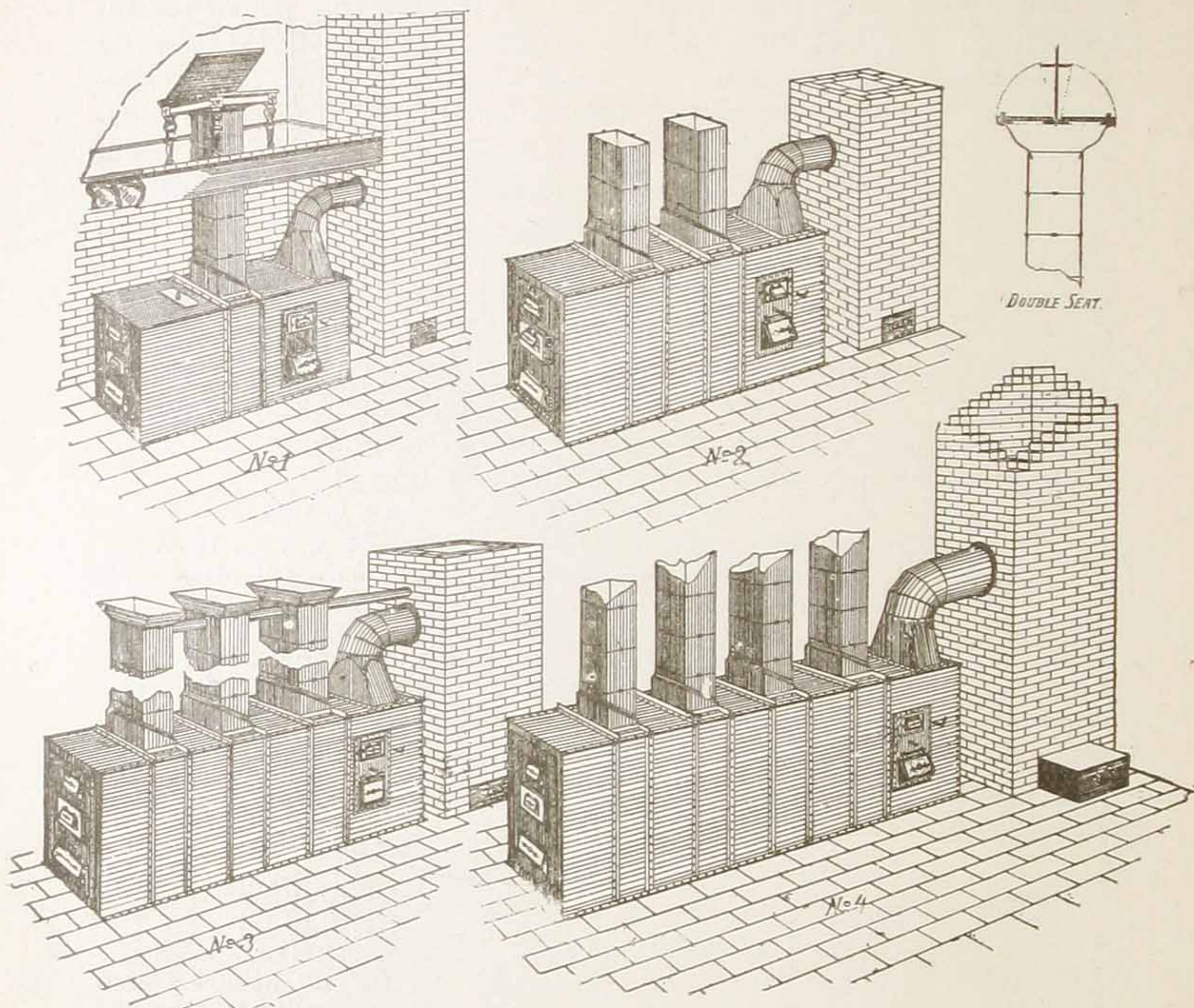


PLATE 8. FIRE CLOSETS OF DIFFERENT SIZES FOR USE OF DWELLINGS, SCHOOLS AND HOTELS.

MISSISSIPPI GLASS CO.,
ST. LOUIS, MO.,
October 23, 1891.)

W. F. Morse, Esq., General Agent,

The Engle Sanitary and Cremation Co.

DEAR SIR: The Cremator you put up two years ago at the plant formerly operated by the Thomas Coffin & Co., Limited, but now worked by the Mississippi Glass Company, has been in daily use ever since. At times a very large force of men is employed at the works, and as the burning out of the closet does not cost anything, and the flue remains constantly free from odor, we consider your Fire Closet the solution of an important question in the management of a large factory.

Yours truly,

MISSISSIPPI GLASS CO.,
A. L. HOWE, Gen'l Manager.

It will be seen that the application of the Engle Fire Closet to the uses of every class of dwellings or structure of any kind, is perfectly easy and practicable. When the closet is included in the original plans of the building and constructed with it, there is economy of cost and space, but it can be added to any building where the chimney contains a flue of a suitable size and is accessible from the basement.

The cost of introducing the Engle System of Fire Closets depends upon the number of persons who are thus supplied. When this number is known, the Company can indicate prices which will cover the cost of the closets, soil-pipes, hoppers and urinals. This does not include the wood-work of the stalls, seats, etc., but only the work on the closet and its immediate connections with the chimney. In all cases an engineer of the Company will superintend the construction and trials of the closets.

It is claimed for the Engle Sanitary Fire Closet:

1st. That it is in every way a perfectly satisfactory substitute for every form of privy-vault, earth-closet, or water flushing system.

2nd. That the material of construction is as perfect as can be obtained, and that the principles involved have been thoroughly proven to be absolutely perfect in receiving and retaining objectionable matter, and in destroying the same, with no escape of offensive fumes or odors.

3rd. That the operation of burning off the material is conducted with an economy of fuel and labor which saves a very considerable sum of money annually, as compared with any other process, either of dry closets or removal by water, or of excavation and carrying away.

4th. That it can be applied also to the destruction of every form of household waste which can be produced and with no interference with its normal work of destroying the organic waste.

5th. The destruction of the offensive material is accomplished without the necessity of collection and removal, without being

taken through the streets of the city, thereby giving cause of offense to the public, and without observation or inspection other than to determine when the process of destruction is completed.

Believing that this method of disposal of night-soil to be the best that has ever been offered to the public, the Engle Company hold themselves in readiness to place these Fire Closets in any building, of whatever size, for the accommodation of any number of people desired, at the most moderate cost consistent with good workmanship and the best of material, and are prepared to make examinations, submit estimates, build the closets, submit the same to equitable and thorough tests and trials, and then, and not until then, become the property of the parties making the contract. Personal examination is always invited, and by addressing the office at Des Moines, Iowa, and 30 State Street, New York, whichever may be nearest, full information can be obtained on every point desired.

SPECIAL ANNOUNCEMENT.

THE ENGLE GARBAGE CREMATORS.

Destroying by Fire the Waste of Cities and Towns.

A perfectly sanitary, economical and satisfactory way of disposing of city garbage, refuse, night-soil and dead animals.

The one great problem of town and city government which has given more trouble than almost any other is the disposal of the garbage, waste and refuse. This problem has been solved by the destruction of all worthless matter in the *Engle Garbage Cremator*, a furnace built by the Engle Sanitary and Cremation Company, and by repeated improvements suggested by practical experience, brought to such a point as to be capable of doing this work with speed, economy and safety.

This Cremator will destroy every kind of city waste, garbage, night-soil, refuse, dead animals, anything that fire will affect, and will consume this without escape of odors, smoke or offensive gases. It can be located inside the city limits, within a short distance of the collection district; will dispose of each day's collection, however large; can be operated with any kind of fuel—wood, coal, oil or gas; requires a small amount of fuel and the employment of few men, and produces an ash which is valuable as a fertilizer.

A pamphlet containing account of construction and operation of Cremators; cuts and descriptions of many now in active service, together with reports of operation of Sanitary and Health Officers of cities where they are in use, will be sent on application to the office of the Engle Sanitary and Cremation Company, Des Moines, Iowa, or 30 State Street, New York.

